

SARS-CoV-2 Variants – Situation Update and Public Health Response

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| DATE: | 2/8/2021 |
| TO: | Health Alert Network |
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| SUBJECT: | SARS-CoV-2 Variants – Situation Update and Public Health Response |
| DISTRIBUTION: | Statewide |
| LOCATION: | n/a |
| STREET ADDRESS: | n/a |
| COUNTY: | n/a |
| MUNICIPALITY: | n/a |
| ZIP CODE: | n/a |

This transmission is a “Health Advisory,” conveys the highest level of importance; warrants immediate action or attention.

HOSPITALS: PLEASE SHARE WITH ALL MEDICAL, PEDIATRIC, NURSING AND LABORATORY STAFF IN YOUR HOSPITAL; **EMS COUNCILS:** PLEASE DISTRIBUTE AS APPROPRIATE; **FQHCs:** PLEASE DISTRIBUTE AS APPROPRIATE **LOCAL HEALTH JURISDICTIONS:** PLEASE DISTRIBUTE AS APPROPRIATE; **PROFESSIONAL ORGANIZATIONS:** PLEASE DISTRIBUTE TO YOUR MEMBERSHIP; **LONG-TERM CARE FACILITIES:** PLEASE SHARE WITH ALL MEDICAL, INFECTION CONTROL, AND NURSING STAFF IN YOUR FACILITY

- There is an increasing number of SARS-CoV-2 variant cases being detected in the United States, including in Pennsylvania.
- Labs performing the ThermoFisher TaqPath COVID-19 RT-PCR assay are asked to forward any positive samples without a signal for the S gene and Cycle threshold (Ct) values for N and Orf1ab <28 to the DOH lab for sequence characterization.
- If operationally feasible, implementing enhanced public health control measures are warranted when SARS-CoV-2 variant cases are identified.
- COVID-19 treatment and vaccine should continue to be made available to all individuals recommended to receive these therapies regardless of variant circulation.
- Individuals should continue to practice COVID-19 mitigation measures including avoiding gathering with others outside their household, continuing to wear masks, increasing handwashing, ventilating indoor spaces, and staying at least six feet apart from others.
- If you have questions about this guidance, please call your local health department or 1-877-PA-HEALTH (1-877-724-3258).

Current Situation

- Multiple SARS-CoV-2 variants are circulating globally. Several new variants emerged in the fall of 2020 including:
 - B.1.1.7 variant (Also known as 20I/501Y.V1 or VOC 202012/01)

- First identified in the United Kingdom (UK) with a large number of genetic mutations and has been reported in numerous countries including the United States.
- This variant is associated with increased transmissibility (i.e., more efficient and rapid transmission).
- B.1.351 variant (Also known as 20H/501Y.V2)
 - First identified in South Africa and shares some mutations with B.1.1.7.
 - Currently, there is no evidence to suggest that this variant has any impact on disease severity.
 - Early findings indicate that treatments (e.g., monoclonal antibodies) and vaccine may be less effective in individuals infected with this variant virus.
- P.1 Variant (Also known as 20J/501Y.V3)
 - First identified in Japan in travelers from Brazil.
 - This variant has 17 unique mutations. Early evidence suggests that these mutations could impact transmissibility and the effectiveness of treatments and vaccines.
- Much of the information currently known about these variant viruses is limited and additional research is needed to better understand these viruses and their impact.
- As of February 7, 2021, 699 cases of variant SARS-CoV-2 virus have been reported to [CDC](#) from 34 states. The B.1.1.7 variant was most frequently reported with 690 cases. There have been 6 B.1.351 variant and 3 P.1 variant cases also reported. This includes 15 B.1.1.7 variant cases reported from Pennsylvania.
- Much of the early sequencing efforts in the United States have focused primarily on the B.1.1.7 variant which may impact knowledge of the burden of other variants.

Variant Identification

SARS-CoV-2 variant viruses are detected by conducting [genetic sequencing](#) on specimens collected from infected individuals. While great progress has been made in ensuring SAR-CoV-2 testing is available, resources are not sufficient to perform genetic sequencing on all COVID-19 cases. The CDC has formed partnership including with state public health agencies to ramp up SAR-CoV-2 sequencing to conduct surveillance for and detect variant viruses. Additional information on CDC partnerships can be found here:

- <https://www.cdc.gov/coronavirus/2019-ncov/more/science-and-research/scientific-brief-emerging-variants.html>
- <https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/variant-surveillance.html>

While current RT-PCR testing cannot detect a variant strain, certain RT-PCR tests have been found to produce results that could help identify potential variant viruses and enhance surveillance efforts for variant viruses. Labs performing the [ThermoFisher TaqPath](#) COVID-19 RT-PCR assay are asked to forward any positive samples without a signal for the S gene and Cycle threshold (Ct) values for N and Orf1ab <28 to the DOH lab for sequence characterization. Please notify the DOH lab at 610-280-3464 that samples will be submitted. All submitted samples should include Ct values.

Public Health Response to Variant SAR-CoV-2

[Isolation](#) of all COVID-19 positive cases and [quarantine](#) of all closed contacts is required. Since antigen and PCR tests cannot detect variant cases of COVID-19 and sequencing of these viruses may not be known when public health actions are being implemented, previously recommended guidance on [isolation](#) and [quarantine](#) should be followed. When a variant case is identified, public

health authorities will be notified, and an investigation will be conducted. If upon this notification close contacts have not yet completed their quarantine period, DOH recommends completion of the full 14-day quarantine to provide the greatest reduction in risk of transmission. If individuals have already been released from [quarantine](#) when sequencing is available, no further public health action should be taken. As previously stated in [quarantine](#) guidance, all close contacts should be monitoring their symptoms for a full 14 days after their last contact with the case. As sequencing information to identify variant cases is often reported with a delay or may not be available for all COVID-19 cases, it is not feasible to request documentation of sequencing results when making public health recommendations.

In an effort to learn more about variant SARS-CoV-2 cases, additional interviews may be conducted with cases to ascertain information on contacts, travel, clinical severity, and outcomes. This information will be used to assist public health in better understanding the impact of SARS-CoV-2 variants.

Individuals should continue to practice COVID-19 mitigation measures including avoiding gathering with others outside their household, continuing to wear masks, increasing handwashing, ventilating indoor spaces, and staying at least six feet apart from others.

All current infection prevention and control guidance associated with the care of COVID-19 patients continue to be applicable to any individuals infected with a variant SARS-CoV-2 virus.

Clinical Impact of Variant SAR-CoV-2 Cases

The presence of the variant SARS-CoV-2 virus circulating in Pennsylvania should not deter individuals from obtaining the COVID-19 vaccine. Additional information gathering and study is still needed to understand the true potential impact on vaccine effectiveness among individuals infected with a variant strain. Even if reduced effectiveness is proven for certain variants, the vaccine will likely still have some impact in reducing severe illness and outcomes in those who receive the vaccine.

Similar to vaccination, some early information suggests that some COVID-19 treatments (e.g., monoclonal antibodies) may be less effective on those infected with some strains of variants SARS-CoV-2 viruses. Despite some of these early reports, **the current recommendations for administration of these treatments remains unchanged.**

If you have questions about this guidance, please call your local health department or **1-877-PA-HEALTH (1-877-724-3258)**.

Individuals interested in receiving further PA-HANs are encouraged to register at <https://han.pa.gov/>.

Categories of Health Alert messages:

Health Alert: conveys the highest level of importance; warrants immediate action or attention.

Health Advisory: provides important information for a specific incident or situation; may not require immediate action.

Health Update: provides updated information regarding an incident or situation; unlikely to require immediate action.

This information is current as of February 8, 2021 but may be modified in the future. We will continue to post updated information regarding the most common questions about this subject.